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EXAMINER	
LEUNG, CHRISTINA Y	

ART UNIT	PAPER NUMBER
2633	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/332,046	GERSTEL ET AL.	
	Examiner	**Art Unit**	
	Christina Y. Leung	2633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 November 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-11,30-32,37 and 39-44* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-11,30-32,37 and 39-44* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *29 November 2005*.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 3, 4, 8, 30, 37-40, and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barnard et al. (US 6,115,157 A) in view of Purcell et al. (US 5,289,474 A).

Regarding claim 1, Barnard et al. disclose a wavelength division multiplexed optical system (Figure 3), comprising:

a first optical node 11 including a transponder T1 (shown in Figure 2B) having a test signal generator to generate a test signal, the test signal generator being adapted to generate the test signal by outputting a valid frame as the test signal (a generator is not explicitly shown in the figures, but Barnard et al. specifically disclose generating a frame as a test signal at the transmitter by some means; in other words, they disclose valid frames generated at a first node that may be later monitored; see column 5, lines 7-16 and lines 29-33);

a second optical node 17 including a transponder R1 (shown in Figure 2A) having a monitoring circuit (error detector 4) to monitor a received test signal (column 4, lines 62-67; column 5, lines 1-6); and

a light path through which at least optical communications normally are exchanged between the first and second optical nodes (Figure 3).

Although Figure 3 shows a unidirectional system in particular, Barnard et al. disclose that the system may be bidirectional (column 6, lines 9-14), wherein transmitters and receivers would be provided at both nodes.

Barnard et al. further disclose that the light path is tested by the monitoring circuit monitoring a bit error rate of the test signal in response to receiving the test signal from the first optical node through the light path (column 4, lines 66-67; column 5, lines 1-20).

Barnard et al. disclose generating a test signal by outputting a valid frame but do not specifically disclose a frame memory pre-stored with at least three pre-defined test frames, each test frame being an error frame of a valid frame, or a management interface controller adapted to selectively output from the frame memory on of the at least three test frames pre-stored in the frame memory as a test signal.

However, Purcell et al. teach a system related to the one disclosed by Barnard et al. including a test signal generator for generating a frame as a test signal in a communications system (Figure 1; column 2, lines 64-68; column 3, lines 1-18).

Purcell et al. further teach storing the test frame in a frame memory (i.e., transmit memory element 24; see column 8, lines 33-35; column 9, lines 16-18 and lines 43-69; column 5, lines 1-5). Regarding claim 8 in particular, Purcell et al. teach that the test frame may be an error/invalid frame including predetermined errors (column 2, lines 23-40; column 9, lines 1-14). Purcell et al. further teach a management interface controller in the form of personal computer 18, through which a user determines the test frame that is output (column 8, lines 33-59).

Purcell et al. do not explicitly teach at least three predefined test frames pre-stored in the frame memory, but they do teach selectively outputting a error/invalid frame or a valid frame as

the test signal (column 2, lines 23-40; column 3, lines 6-11; column 9, lines 1-14; column 15, lines 45-56). In other words, they teach that various types of test frames may be created by users. Although they do not explicitly teach storing more than one test frame at a time in frame memory 24, it is well understood in the general communications and computing arts that plural inputs from users may be stored in a memory for future use so that users do not need to re-input previously determined information or messages.

Regarding claims 1 and 8, it would have been obvious to a person of ordinary skill in the art to use a controller to selectively output from a frame memory a predefined test frame being an error frame or a valid frame as taught by Purcell et al. in the optical system disclosed by Barnard et al. in order to advantageously use the test signal to test the system under a wider variety of conditions, including specific error conditions (Purcell et al., column 2, lines 23-40). It also would have been obvious to a person of ordinary skill in the art to store at least three predefined test frames in the system suggested by Barnard et al. in view of Purcell et al. so that users do not need to re-input previously determined possible test frames. Again, Purcell et al. already suggest that various types of test frames may be created by users.

Regarding claims 3 and 4, Barnard et al. disclose that the test signal may be a valid client signal such as a valid SONET frame (column 5, lines 7-16).

Regarding claim 30, Barnard et al. disclose that that the transponder of the first optical node also has another monitoring circuit to monitor a test signal received thereby, the transponder of the second optical node also has another test signal generator to generate another test signal, and the monitoring circuit of the first optical node tests the light path by monitoring a quality of the tests signal generated in the second optical node and provided to the monitoring

circuit of the first optical node through the light path. Again, although Figure 3 shows a unidirectional system in particular, Barnard et al. disclose that the system may be bidirectional (column 6, lines 9-14), wherein transmitters and monitoring elements would be provided at both nodes.

Regarding claim 37, as similarly discussed above with regard to claim 1, Barnard et al. disclose a method for operating a wavelength division multiplexed optical communication system (Figure 3), comprising:

generating a test signal by outputting a valid frame;

transmitting the test signal generated in the generating from a first optical node 11 to a second optical node 17 by way of a light path through which at least optical communications normally are exchanged between the first and second optical nodes (column 5, lines 7-16 and lines 29-33); and

determining if there is a fault condition in the light path based on a bit error rate of the test signal received at the second optical node 17 (column 5, lines 49-67; column 6, lines 1-5 and lines 15-28).

Again, Barnard et al. disclose generating a test signal by outputting a valid frame but do not specifically disclose generating a test signal by selectively outputting from a frame memory one of at least three predefined test frames pre-stored in the frame memory, each test frame being an error frame or a valid frame.

However, Purcell et al. teach a system related to the one disclosed by Barnard et al. including a test signal generator for generating a frame as a test signal in a communications system (Figure 1; column 2, lines 64-68; column 3, lines 1-18). Purcell et al. further teach storing

the test frame in a frame memory (i.e., transmit memory element 24; see column 8, lines 33-35; column 9, lines 16-18 and lines 43-69; column 5, lines 1-5). Regarding claim 44 in particular, Purcell et al. teach that the test frame may be an error/invalid frame including predetermined errors (column 2, lines 23-40; column 9, lines 1-14).

Purcell et al. do not explicitly teach at least three predefined test frames pre-stored in the frame memory, but they do teach selectively outputting a error/invalid frame or a valid frame as the test signal (column 2, lines 23-40; column 3, lines 6-11; column 9, lines 1-14; column 15, lines 45-56). In other words, they teach that various types of test frames may be created by users. Although they do not explicitly teach storing more than one test frame at a time in frame memory 24, it is well understood in the general communications and computing arts that plural inputs from users may be stored for future use so that users do not need to re-input previously determined information or messages.

Regarding claims 37 and 44, it would have been obvious to a person of ordinary skill in the art to selectively output from a frame memory a predefined test frame being an error frame or a valid frame as taught by Purcell et al. in the optical system disclosed by Barnard et al. in order to advantageously use the test signal to test the system under a wider variety of conditions, including specific error conditions (Purcell et al., column 2, lines 23-40). It also would have been obvious to a person of ordinary skill in the art to store at least three predefined test frames in the system suggested by Barnard et al. in view of Purcell et al. so that users do not need to re-input previously determined possible test frames. Again, Purcell et al. already suggest that various types of test frames may be created by users.

Regarding claims 39, and 40, Barnard et al. disclose that the test signal may be a valid client signal such as a valid SONET frame (column 5, lines 7-16).

3. Claims 5, 6, 41, and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barnard et al. in view of Purcell et all. as applied to claims 1 and 37 above, and further in view of Chang et al..

Regarding claims 5, 6, 41, and 42, Barnard et al. in view of Purcell et al. disclose a system and method as discussed above with regard to claim 1 and 37 including sending and monitoring a valid frame signal, but they do not specifically disclose that the valid frame may be a valid maintenance signal. However, Barnard et al. also disclose generally transmitting SONET signals, and signals corresponding to the SONET protocol are well known in the art.

Chang et al. teach a system related to the one described by Barnard et al. in view of Purcell et al. including elements for sending a test signal and monitoring the bit error rate of a test signal at a network node (Figures 2A and 2B). Chang et al. further suggest sending a test signal that is a valid maintenance signal such as a SONET alarm indication signal (also known as "AIS"; column 5, lines 32-35). It would have been obvious to a person of ordinary skill in the art to provide an alarm indication signal as suggested by Chang et al. as the test signal in the system described by Barnard et al. in view of Purcell et al. in order to test and observe the response of the system when alarm signals such as "AIS" are sent.

4. Claims 7, 9, and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barnard et al. in view of Purcell et al. as applied to claims 1 and 37 above, and further in view of Fee (US 6,108,113 A) and Czarnocha et al. (US 6,504,630 B1).

Regarding claims 7, 9, and 43, Barnard et al. in view of Purcell et al. describe a system and method as discussed above with regard to claims 1 and 37 including two optical nodes, but they do not specifically disclose client equipment. However, it is well known in the art that the nodes in a network such as described by Barnard et al. in view of Purcell et al. may be connected to client equipment and other interfaces for users, such as the computers and equipment taught in particular by Fee (see Figure 1). It would have been obvious to a person of ordinary skill in the art to include client equipment as taught by Fee in the system described by Barnard et al. in view of Purcell in order to provide well known interfaces for users in the network so that those users may communicate with each other.

Further regarding claims 7, 9, and 43, Barnard et al. in view of Purcell et al. and Fee do not specifically suggest that the light path may be tested prior to connecting client equipment to the first and second optical nodes or that the system specifically includes a communications blocker. However, it is well known in the art that a user of a system including supervisory/monitoring signals such as described by Barnard et al. in view of Purcell et al. and Fee may test the system before transmitting the main data signals (i.e., before the client equipment is connected or while the client equipment is blocked from communicating), as Czarnocha et al. also specifically teach (column 6, lines 59-67; column 7, lines 1-34).

It would have been obvious to a person of ordinary skill in the art to test the light path prior to connecting client equipment to the first and second optical nodes (or alternatively, while blocking communications from the client equipment) as taught by Czarnocha et al in the system and method described by Barnard et al. in view of Purcell et al and Fee simply in order for the

user to verify that the system is functional before proceeding with actual data communications (and so that none of the main data signals are lost).

5. Claims 31 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barnard et al. in view of Purcell et al. as applied to claims 1 and 30 above, and further in view of Gewin et al. (US 5,060,226 A).

Regarding claims 31 and 32, Barnard et al. in view of Purcell et al. describe a system as discussed above with regard to claims 1 and 30 including two optical nodes but they do not specifically disclose a loopback mechanism.

However, Gewin et al. teach a system related to the one described by Barnard et al. in view of Purcell et al. including nodes that transmit and receive data and wherein a node may test a received test signal by monitoring the bit error rate of the signal (column 3, lines 61-64).

Gewin et al. further disclose that the path includes at least one loopback mechanism included in at least one other node (shown in Figure 3 as located within remote node 44a) which directs the test signal generated by the test signal generator of one of the first and second nodes (i.e., one of master nodes 10A or 10B) to the monitoring circuit of a same one of the first and second nodes, for monitoring therein (column 9, lines 2-20).

Regarding claims 31 and 32, it would have been obvious to a person of ordinary skill in the art to include a loopback mechanism as taught by Gewin et al. in the system described by Barnard et al. in view of Purcell et al. so that the transmitting and monitoring elements located at both ends of the communications path as disclosed by Barnard et al. may be used to access and test part of the path even when a fault on the path disables the communication between the first and second nodes.

6. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chang et al. (US 5,619,489 A) in view of Purcell et al.

Regarding claim 10, Chang et al. disclose a system (Figures 2A and 2B) comprising:

a transponder having at least a transmitter (such as STS-1 transmitter 244) and a receiver (such as STS-1 receiver 240), a test signal generator 236 to generate a test signal, the test signal generator being adapted to output a valid frame as the test signal (column 3, lines 61-65; column 4, lines 25-33), and a monitoring circuit 222 connected to the receiver to monitor a bit error rate of a received test signal at an input of the receiver (column 5, lines 6-7), wherein the transmitter transmits signals applied to an input of the transmitter.

Chang et al. further disclose a switch, operable either to couple a signal output by the receiver to the input of the transmitter, or to couple the test signal to the input of the transmitter. Although a switch element is not explicitly shown in Figures 2A and 2B, Chang et al. disclose that the system configuration may be switched (using microprocessor 200 and based on user input) to either send a test signal from the test signal generator to the transmitter (column 5, lines 29-31) or loop the received signal back through the transmitter (column 5, lines 17-19).

Chang et al. disclose generating a test signal by outputting a valid frame but do not specifically disclose a frame memory pre-stored with at least three pre-defined test frames, each test frame being an error frame of a valid frame, or a management interface controller adapted to selectively output from the frame memory on of the at least three test frames pre-stored in the frame memory as a test signal.

However, Purcell et al. teach a system related to the one disclosed by Chang et al. including a test signal generator for generating a frame as a test signal in a communications system (Figure 1; column 2, lines 64-68; column 3, lines 1-18).

Purcell et al. further teach storing the test frame in a frame memory (i.e., transmit memory element 24; see column 8, lines 33-35; column 9, lines 16-18 and lines 43-69; column 5, lines 1-5). Purcell et al. further teach a management interface controller in the form of personal computer 18, through which a user determines the test frame that is output (column 8, lines 33-59).

Purcell et al. do not explicitly teach at least three predefined test frames pre-stored in the frame memory, but they do teach selectively outputting a error/invalid frame or a valid frame as the test signal (column 2, lines 23-40; column 3, lines 6-11; column 9, lines 1-14; column 15, lines 45-56). In other words, they teach that various types of test frames may be created by users. Although they do not explicitly teach storing more than one test frame at a time in frame memory 24, it is well understood in the general communications and computing arts that plural inputs from users may be stored in a memory for future use so that users do not need to re-input previously determined information or messages.

Regarding claim 10, it would have been obvious to a person of ordinary skill in the art to use a controller to selectively output from a frame memory a predefined test frame being an error frame or a valid frame as taught by Purcell et al. in the optical system disclosed by Chang et al. in order to advantageously use the test signal to test the system under a wider variety of conditions, including specific error conditions (Purcell et al., column 2, lines 23-40). It also would have been obvious to a person of ordinary skill in the art to store at least three predefined

test frames in the system suggested by Chang et al. in view of Purcell et al. so that users do not need to re-input previously determined possible test frames. Again, Purcell et al. already suggest that various types of test frames may be created by users.

Further regarding claim 10, Chang et al. do not specifically disclose that the system may be located at an optical line terminal, but they disclose that the system may be used to test operations at various locations in networks, including optical networks (column 1, lines 10-34). It is well known in the art that optical networks may generally comprise various nodes and line terminals for providing and receiving communications signals. It would have been obvious to a person of ordinary skill in the art to specifically use the system described by Chang et al. in view of Purcell et al. at an optical line terminal simply so that the condition of the network may be examined at such a location. Examiner also notes that claim 10 currently only recites an "optical line terminal" in the preamble of the claim and the body of the claim does not refer to an optical line terminal in any way.

7. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Barnard et al. in view of Purcell et al. and Fee.

Regarding claim 11, as similarly disclosed above with regard to claim 1, Barnard et al. disclose a wavelength division multiplexed optical system (Figure 3), comprising:

an optical node 11 including a transponder (including element T1 shown in Figure 2B) having a test signal generator to generate a test signal, the test signal generator being adapted to generate the test signal by outputting a valid frame as the test signal (a generator is not explicitly shown in the figures, but Barnard et al. specifically disclose generating a frame as a test signal at

the transmitter by some means; in other words, they disclose valid frames generated at a first node that may be later monitored; see column 5, lines 7-16 and lines 29-33);

equipment (element 17) including a monitoring circuit to monitor a received test signal (shown in Figure 2A); and

an optical path through which at least optical communications normally are exchanged between the optical node and the equipment (Figure 3),

wherein the optical path is tested by the monitoring circuit monitoring a bit error rate of the test signal outputted by the optical node and received by the monitoring circuit through the optical path (column 4, lines 66-67; column 5, lines 1-20).

Again, Barnard et al. disclose generating a test signal by outputting a valid frame but do not specifically disclose a frame memory pre-stored with at least three pre-defined test frames, each test frame being an error frame of a valid frame, or a management interface controller adapted to selectively output from the frame memory on of the at least three test frames pre-stored in the frame memory as a test signal.

However, Purcell et al. teach a system related to the one disclosed by Barnard et al. including a test signal generator for generating a frame as a test signal in a communications system (Figure 1; column 2, lines 64-68; column 3, lines 1-18).

Purcell et al. further teach storing the test frame in a frame memory (i.e., transmit memory element 24; see column 8, lines 33-35; column 9, lines 16-18 and lines 43-69; column 5, lines 1-5). Purcell et al. further teach a management interface controller in the form of personal computer 18, through which a user determines the test frame that is output (column 8, lines 33-59).

Purcell et al. do not explicitly teach at least three predefined test frames pre-stored in the frame memory, but they do teach selectively outputting a error/invalid frame or a valid frame as the test signal (column 2, lines 23-40; column 3, lines 6-11; column 9, lines 1-14; column 15, lines 45-56). In other words, they teach that various types of test frames may be created by users. Although they do not explicitly teach storing more than one test frame at a time in frame memory 24, it is well understood in the general communications and computing arts that plural inputs from users may be stored in a memory for future use so that users do not need to re-input previously determined information or messages.

Regarding claim 11, it would have been obvious to a person of ordinary skill in the art to use a controller to selectively output from a frame memory a predefined test frame being an error frame or a valid frame as taught by Purcell et al. in the optical system disclosed by Barnard et al. in order to advantageously use the test signal to test the system under a wider variety of conditions, including specific error conditions (Purcell et al., column 2, lines 23-40). It also would have been obvious to a person of ordinary skill in the art to store at least three predefined test frames in the system suggested by Barnard et al. in view of Purcell et al. so that users do not need to re-input previously determined possible test frames. Again, Purcell et al. already suggest that various types of test frames may be created by users.

Response to Arguments

8. Applicants' arguments filed 09 November 2005 have been fully considered but they are not persuasive.

9. Examiner respectfully disagrees with Applicants' assertion on page 10 of their response that Purcell et al. do not suggest a frame memory or a pre-defined test frame. On the contrary,

Purcell et al. teach that a test message frame is loaded into a transmit memory 24 (column 9, lines 1-18 and lines 43-61) and therefore would be well understood as a "pre-defined" test frame. Purcell et al. also teach a management interface controller in the form of personal computer 18, through which a user determines the test frame that is output (column 8, lines 33-59).

Again, Examiner respectfully notes that Purcell et al. do not explicitly teach at least three predefined test frames pre-stored in the frame memory, but they do teach selectively outputting a error/invalid frame or a valid frame as the test signal (column 2, lines 23-40; column 3, lines 6-11; column 9, lines 1-14; column 15, lines 45-56). In other words, they teach that various types of test frames may be created by users. Although they do not explicitly teach storing more than one test frame at a time in frame memory 24, it is well understood in the general communications and computing arts that plural inputs from users may be stored in a memory for future use so that users do not need to re-input previously determined information or messages.

It would have been obvious to a person of ordinary skill in the art to use a controller to selectively output from a frame memory a predefined test frame being an error frame or a valid frame as taught by Purcell et al. in the optical system disclosed by either Barnard et al. or Chang et al. in order to advantageously use the test signal to test the systems under a wider variety of conditions, including specific error conditions (Purcell et al., column 2, lines 23-40). It also would have been obvious to a person of ordinary skill in the art to store at least three predefined test frames in the system suggested by Barnard et al. in view of Purcell et al. or Chang et al. in view of Purcell et al. so that users do not need to re-input previously determined possible test frames. Again, Purcell et al. already suggest that various types of test frames may be created by users.

Conclusion

10. Applicants' amendment necessitated the new ground(s) of rejection presented in this Office Action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicants are reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christina Y. Leung whose telephone number is 571-272-3023. The examiner can normally be reached on Monday to Friday, 6:30 to 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on 571-272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Christina Y. Leung
CHRISTINA LEUNG
PRIMARY EXAMINER